

Abstract Title: The Lightning Nitrogen Oxides Model (LNOM): status and recent applications.

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ABSTRACT

Improvements to the NASA Marshall Space Flight Center Lightning Nitrogen Oxides Model (LNOM) are discussed. Recent results from an August 2006 run of the Community Multiscale Air Quality (CMAQ) modeling system that employs LNOM lightning NO_x (= NO + NO₂) estimates are provided. The LNOM analyzes Lightning Mapping Array (LMA) data to estimate the raw (i.e., unmixed and otherwise environmentally unmodified) vertical profile of lightning NO_x. The latest LNOM estimates of (a) lightning channel length distributions, (b) lightning 1-m segment altitude distributions, and (c) the vertical profile of NO_x are presented. The impact of including LNOM-estimates of lightning NO_x on CMAQ output is discussed.